

## AMENDMENTS

### In the Claims:

Please amend the claims as follows:

1. (Currently amended) A virtualizing microarray system, the system comprising:
  - (a) a microarray comprising:
    - (i) a number of features, each feature containing a type of probe molecule designed to bind a target molecule; and
    - (ii) a memory element physically associated with the microarray, wherein the memory element comprises data that describes each feature of the microarray; **and**
  - (b) a microarray processing component that is configured to process only a subset of the features of the microarray at a processing step, wherein the processing step is selected from: a scanning step, a feature extraction step and a feature normalization step;
  - (c) a data processing component that is configured to analyze data describing the processed subset of the features; and
  - (d) logic that controls the [[a]] microarray processing component to generate a virtual microarray comprising the data describing [[a]] the processed subset of the features of the microarray.

2. (Previously Presented) The virtualizing microarray system of claim 1 wherein the data describing a feature of the microarray comprises:  
data that identifies a position of the feature within the microarray;  
data that identifies the type of probe molecules contained in the feature; and  
data that describes the target molecule of the probe molecules contained in the feature.

3. (Previously Presented) The virtualizing microarray system of claim 2 wherein the data that describes the target molecule of the probe molecules contained in the feature comprises:

data that describes an immediate target molecule to which the probe molecules bind.

4. (Previously Presented) The virtualizing microarray system of claim 2 wherein the data that describes the target molecule of the probe molecules contained in the feature includes:

data that describes a biological molecule produced by synthesis directed by an immediate target molecule to which the probe molecules bind.

5. (Previously Presented) The virtualizing microarray system of claim 2 wherein the data that describes the target molecule of the probe molecules contained in the feature further includes:

data describing molecular function;  
data describing a biological process; and  
data describing a cellular component.

6. (Previously Presented) The virtualizing microarray system of claim 1 wherein the logic comprises:

logic that controls the microarray processing component to specify masks related to the data describing each feature of the microarray; and

logic that controls the microarray processing component to use the specified masks to filter the features of the microarray to produce the data describing a subset of the features of the microarray.

7. (Previously Presented) The virtualizing microarray system of claim 1, wherein the microarray processing component is selected from one or more of: a microarray

scanner; a microarray-data processing system; and a microarray-data visualization system.

8. (Cancelled)

9. (Previously Presented) The virtualizing microarray system of claim 1 wherein the microarray further includes a header, wherein the logic controls the microarray processing component to associate data describing each feature of the microarray with a microarray identified by information contained in the header.

10. (Previously Presented) The virtualizing microarray system of claim 7 wherein the microarray processing component is a microarray scanner.

Please enter the following new claims.

11. (**New**) The virtualizing microarray system of claim 1, wherein the processing step is a scanning step.

12. (**New**) The virtualizing microarray system of claim 1, wherein the processing step is a feature extraction step.

13. (**New**) The virtualizing microarray system of claim 1, wherein the processing step is a feature normalization step.

14. (**New**) The virtualizing microarray system of claim 1, wherein the virtual microarray consists essentially of data describing the processed subset of the features of the microarray.